

U.S. Patent Application Serial No. **10/516,949**

Response filed October 15, 2010

Reply to OA dated July 20, 2010

**REMARKS**

Claims 1, 3, 4, 6-9, 11, 12 and 14-16 are pending in this application. No amendment is made in this Response. It is believed that this Response is fully responsive to the Office Action dated July 20, 2010.

**Claims 1, 3-4, 7-9, 11-13, and 15-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tsuchiya et al. (US 6,672,318) alone, or taken in view of Parrette (US 5,725,663).** (Office action paragraph no. 4)

The rejection of claims 1, 3-4, 7-9, 11-13 and 15-16 is respectfully traversed, and reconsideration is requested.

In the rejection, the Examiner cites Tsuchiya at column 10, lines 16-31, as teaching that the outer corner cylindrical section 54 is formed by “bending inwardly the distal end portion of the outer inclined member 52’ and that intermediate inclined member 56, intermediate corner cylindrical section 58, inner inclined member 60, and inner corner cylindrical section are all similarly formed by ‘bending inwardly.’”

The Examiner states that “it would have been within the skill of a design engineer .... to have designed the tip of the inclined members 60, 56, 52 of Tsuchiya et al. with a curved tip shape as a matter of design preference with the expectation of similar and successful results.” The Examiner then refers to the *KSR International Co. v. Teleflex, Inc.* Supreme Court case.

The Examiner further comments on the angle of inclination of inclined members 60, 56 and 52, stating that these angles “are such that the chemicals do not attach or settle there or reflect to the

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outside of the collection tanks, which is similarly taught to be the object of Applicant's 'curved' tip shape."

In addition, at page 6, line 11, Parrette is cited for the teaching of a curved tip portion 86 on a peripheral edge wall of a spin coating bowl in Fig. 1. The Examiner states that it would have been obvious to have incorporated this curved tip portion to the upper edge of inclined members 60, 56, 52 in Tsuchiya et al., with the expectation of improving flow of air and/or liquid ....

In response, Applicant first calls attention to the Examiner's argument regarding Tsuchiya, that modifying inclined members 60, 56 and 52 to be "reflecting faces that are curved" would be a **"design choice."** Applicant submits that the Examiner has not presented a proper motivation for such a modification of the prior art. In case law, the concept of "design choice" may be found with regard to "rearrangement of parts" in *In re Kuhle* (see MPEP 2144.04(VI)(c)), where the particular placement of a contact was found to be a "design choice." However, the proposed modification in the present rejection is not simply a matter of **placement** of a component, but involves modifying the **shape** of the component. Moreover,

"The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*

That is, the Examiner's statement that such a design modification "would have been within the skill of a design engineer" does not provide a proper motivation to modify the shape of Tsuchiya's inclined members.

The Examiner additionally cites the *KSR International Co. v. Teleflex, Inc.* case, but does not refer to any of the specific rationales to support a conclusion of obviousness as set down in *KSR* (see MPEP 2141(III)). Applicant submits that none of these rationales provides a motivation for the proposed modification.

The Examiner also comments on the angle of inclination of Tsuchiya's inclined members 60, 56 and 52 as being such that chemicals do not attach there, and then states that this is the purpose of the curved tip shape in the present invention. This is not a valid motivation for modifying Tsuchiya, for the following reasons:

First of all, the Examiner has not pointed out any particular disclosure in Tsuchiya to support the contention that the purpose of the angle of inclination of the inclined members 60, 56 and 52 is the same as the purpose in the present application. Applicant can find no disclosure in the reference regarding the effect of the angle of inclination of inclined members 60, 56 and 52. Moreover, Applicant can find no suggestion in Tsuchiya that the flow of liquid off the inclined members should modified in any way.

Secondly, the Examiner refers to the purpose of the curved reflective faces **in the present application** as being to avoid the attachment of chemicals on the faces or to reflect the chemicals. This appears to refer to the disclosure at page 6, lines 17-23, of Applicant's specification. However, the purpose stated in Applicant's specification does not provide a proper motivation for a modification of the prior art.

Therefore, the pending claims are clearly not obvious over Tsuchiya taken alone.

Regarding the combination of Tsuchiya and Parrette, the Examiner refers to Parrette's "rounded inner deflector lip 86" (see column 3, line 40), which is a portion of "top deflector 84," which is, in turn, part of "tunnel shield 80."

Applicant submits, however, that the Examiner has not clearly stated how Tsuchiya and Parrette are being combined. The Examiner apparently considers tunnel shield 80 of Parrette to be generally analogous to the inclined members in Tsuchiya. However, the overall cross-section of Parrette's tunnel shield 80 is not thin and inclined in the manner of the inclined members in Tsuchiya. If Parrette's tunnel shield 80 were substituted for an inclined member, it would not stack with the other inclined members, and Tsuchiya's device simply **would not work**. Applicant notes, regarding *In re Gordon*, MPEP 2143.01(V) states:

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

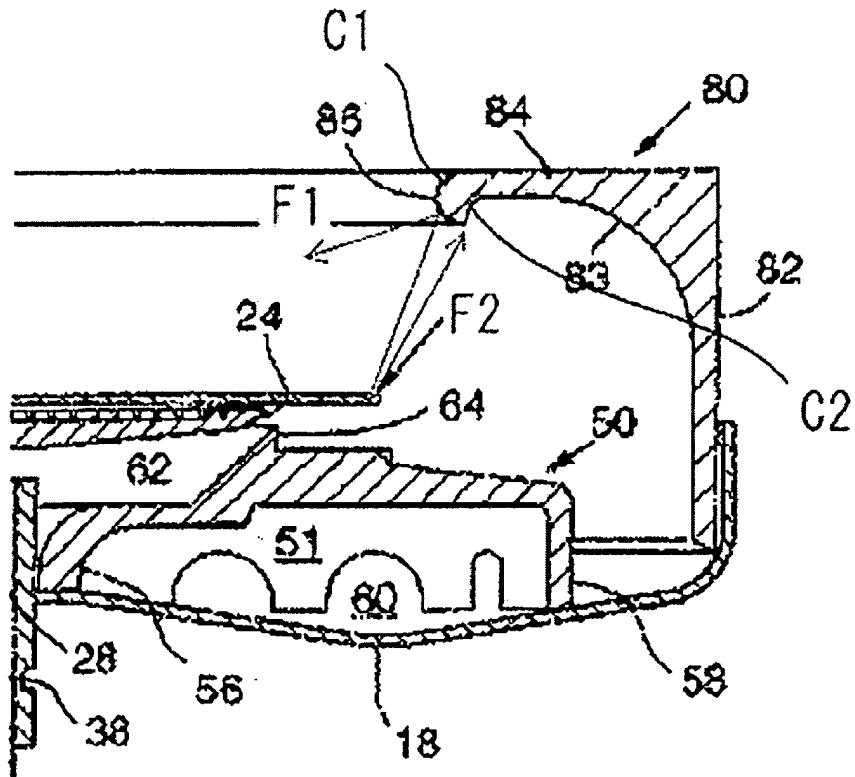
It would not even be possible to modify Tsuchiya's inclined members to have Parrette's "rounded inner deflection lip 86" at their tips, since this tip is not flat, like Tsuchiya's inclined members.

Moreover, Applicant submits that the rounded inner deflector lip 86 in Parrette '663 is not "a reflective face that is curved to reflect the treatment solution scattered from the substrate to be treated to lead the treatment solution into the collection tank," as required by the present claims, but rather is a **block** to hold back a treatment solution or air, which goes up passing an inner curved surface 83, at a protuberance of the lip 86. Accordingly, Parrette can provide no suggestion for this limitation of claim 1.

Specifically, as illustrated below in an annotated version of a portion of Fig. 1 of Parrette, the lip 86 in Parrette has two curved surfaces C1 and C2. If the treatment solution scattered from the substrate to be treated hits on the C1 surface, as shown by arrow F1, the treatment solution is not led into the collection tank and flies off.

Moreover, if the treatment solution scattered from the substrate to be treated goes toward the C2 surface, the treatment solution cannot reach the C2 surface since the C2 surface is formed outward (see arrow F2).

Annotated version of portion of Fig. 1 in Parrette '663



Therefore, there is no suggestion in Parrette that the treatment solution scattered from the substrate to be treated hits on the rounded inner deflector lip 86, and Parrette provides no suggestion

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for the present claims or motivation for modification of Tsuchiya to have the structure recited in the pending claims.

Claims 1, 3-4, 7-9, 11-13, and 15-16 are therefore not obvious over Tsuchiya et al. (US 6,672,318) or Parrette (US 5,725,663), taken separately or in combination.

**Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya et al. alone or in view of Parrette, as applied to claims 1 and 9 above, and further in view of JP 2000-183010A.** (Office action paragraph no. 5)

Reconsideration of the rejection is respectively requested.

In the rejection, Tsuchiya and Parrette are cited as in the above rejection, and JP '010A is cited for disclosing exhaust port 35. Applicant has argued above that base claims 1 and 9 are not obvious over the combination of Tsuchiya and Parrette, and the citation of JP '010A does not correct the deficiency in the rejection over Tsuchiya and Parrette.

**Claims 1, 3-4, 7, 9, 11-13, and 15 are rejected under 35 U.S.C. §103(a) as being obvious over JP 2000-183010A alone or taken in view of Parrette.** (Office action paragraph no. 6)

The rejection is respectfully traversed and reconsideration is requested.

The Examiner cites JP '010 for disclosing a substrate treating apparatus including a plurality of fences and a moveable fence 30 driven upward to form a conduit. The Examiner states that JP '010 illustrates only two cups and one moveable intermediate cup wall in Figures 4 and 5, and states that paragraph [0045] discloses that "three or more cups can be arranged concentrically."

On page 11, line 4, the Examiner addresses the limitation that "the fence has a tip portion formed to be a reflective face that is curved to reflect the treatment solution ...." The Examiner states that "it would have been within the skill of a design engineer ... to have designed the tip of intermediate cup wall 30 of JP '010 with a curved tip shape ..." The Examiner cites KSR, and also argues with regard to the "angle of inclination of intermediate cup wall '010" in a similar manner to the arguments made in regard to the rejection over Tsuchiya in Office action paragraph no. 4.

The Examiner further cites Parrette in the same manner as in Office action paragraph no. 4, and argues that it would have been obvious to have incorporated a curved tip portion 86 of Parrette to the upper edge of intermediate cup wall 30 in JP '010.

In response, in regard to the rejection over JP '010A taken alone, Applicant submits that the rejection is essentially the same as the above rejection over Tsuchiya. As with Applicant's above arguments regarding Tsuchiya, the Examiner has not provided a proper motivation for modifying JP '010 to have a tip portion with a reflective face that is curved.

The proposed combination of JP '010A with Parrette requires modifying cup wall 30 in JP '010 to have a rounded inner reflection tip 86 of Parrette. However, Applicant submits that this would interfere with the contact between cup wall 30 and cup 15. See, in particular, Fig. 5 of JP '010, where cup wall 30 and cup 15 are in contact. Moreover, if additional cup walls were added as in the Examiner's proposed modification, it is not clear how Parrette's curved tip portions 86 on the different cup walls could nest with each other.

Applicant also refers to the above arguments in regard to the above rejection over Tsuchiya and Parrette regarding the function of Parrette's device, with reference to the annotated Fig. 1 of Parrette. Applicant again submits that the rounded inner deflector lip 86 in Parrette '663 is not "a

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reflective face that is curved to reflect the treatment solution scattered from the substrate to be treated to lead the treatment solution into the collection tank," as required by the present claims, but is a **block** to hold back a treatment solution or air, which goes up passing an inner curved surface 83, at a protuberance of the lip 86.

Claims 1, 3-4, 7, 9, 11-13, and 15 are not obvious over JP 2000-183010A or Parrette, taken separately or in combination.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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